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ABSTRACT

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ATTRIBUTIVE AND REFERENTIAL USES OF BASIC SYNTACTIC CONSTITUENTS 1

Kurt Godden

Abstract: Donnellan's distinction between attributive and referential uses of definite descriptions is extended to include Lewis' basic categories. The distinction as applied to sentences is brought out by investigating the consequences of the failure of presupposed sentences. Stalnaker uses Donnellan's distinction to support his theory of creating an intensional level between those of interpreted sentences and extensions. This intensional level consists of functions taking only possible worlds as input and giving the extension as output. Therefore, by extending Donnellan's distinction more support is given to Stalnaker.

Lewis presents a theory of semantics that begins with a categorially based grammar. This grammar has three basic categories from which all others are derived: S, sentence; N, name; and C, common noun. Each of these basic categories has both an extension or reference and an intension or sense:

	S	N	C
Extension:	truth values	individuals	sets of individuals
Intension:	propositions	individual concepts	properties

The intension of a category is defined as a partial function from the index to the extension. The index is an octuple of coordinates consisting of a possible world coordinate, a contextual coordinate indicating time, place speaker, audience, indicated objects, and previous discourse, and finally an assignment coordinate that assigns values to variables.

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In this system, Porky grunts expresses the proposition GRUNT(porky) which is a function taking the coordinates of the index as its domain and mapping them into the range {true,false}. The proposition is true in those possible worlds having a context where Porky grunts and false in those where he does not. The name 'Porky' has an individual named'Porky' as its extension and a concept of that individual as its intension. The common noun 'pig' denotes a set of individuals all sharing those properties ascribed to pigs.

Stalnaker puts forth a theory of pragmatics that separates the set of possible worlds from the rest of the context. Stalnaker says that the syntactic and semantic rules of a grammar apply to a linguistic expression (for the moment limited to statements) to produce an interpreted sentence. Let us suppose we have such an interpreted sentence, Porky grunts. This interpreted sentence is a function that takes the features of the context (presumably something like Lewis' contextual and assignment coordinates) and produces a proposition as its value, GRUNT(porky). This proposition is a function from the relevant possible worlds into truth values.

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This separation of context and possible worlds needs some justification. Stalnaker claims that Donnellan's distinction between referential and attributive uses of definite descriptions provides some of this justifications. Let us take the sentence, Smith's murderer is insane. This sentence could be used by a speaker who believes that Smith was murdered and wishes to comment on the mental state of anyone who would murder lovable old Smith, but does not necessarily know the identity of that murderer. By the definite description, Smith's murderer, he is referring to any individual as long as that individual murdered Smith. The proposition expressed can be written as $x(MURDER(x,smith)\& x(MURDER(x,smith) \rightarrow INSANE(x))$.

This proposition is simply the logical form of the sentence. We can, in Lewis' system, take this logical form and go from the index to the truth value directly. This corresponds to Donnellan's attributive use of the definite description.

What happens if we try to account for the referential use in Lewis' system? If by the description Smith's murderer the speaker has in mind one particular person Jones, then he could have said Jones is insane without altering the truth value of his statement. Any description of Jones could serve to indicate the referent as easily as the phrase Smith's murderer. In this case, the proposition expressed by the original sentence would be INSANE(jones) which is radically different from the proposition of the attributively used sentence.

In Lewis' system the truth value of the original sentence depends in part upon the reference of the referentially or attributively used definite description. But the distinction cannot be systematically captured by Lewis' system. It can be if we allow Stalnaker's extra level. The proposition is determined by the context and the speaker's intentions applied to the interpreted sentence. The distinction is brought out at this propositional level. Then the value of the proposition depends on the possible worlds. In the case of the referential use above, the value of the proposition is true in those possible worlds where Jones is insane and false in those where he is not.

Stalnaker says that "the set of all presuppositions made by a person in a given context determines a class of possible worlds, the ones consistent with all the presuppositions."[2] And also, "If a statement is given the referential reading, then so must the presupposition."[3] Thus, in the sentence Smith's murderer is insane the attributive reading presupposes $x(MURDER(x,smith))$ but the referential reading presupposes $EXIST(jones)$. The class of possible worlds for each reading must be consistent with the corresponding presuppositions.

In what follows below, I present evidence that calls for an extension of Donnellan's distinction to include Lewis' three basic categories. The distinction as applied to sentences is brought out by investigating the consequences of presuppositional failure in presupposing expressions. The extended distinction between attributive and referential uses then provides for an interpretation, intension, and extension for each basic category and adds to the support for a pragmatic account of presupposition.

It is a matter of preference as to which categories are regarded as basic. For example, Montague derives common nouns from the two prim-

itive categories entity and declarative sentence. However, for those who regard C as elemental, I will provide one instance of what may serve as an example of Donnellan's distinction for common nouns.

The example occurred on a television show. A female performer had told the host of the show that there had never been a hiatus in her career. The host then asked, "Never a break, never a retirement, never a time between pictures?" The woman interrupted, "Oh, I never did pictures." The host answered, "No, I meant that in the sense of never a break between engagements."

The common noun in question is pictures. The woman understood the host to refer to a set of movies or pictures that she had made in her career, $\{p_1, p_2, p_3, \ldots p_n\}$. That is, she interpreted the word attributively. The host corrected her by indicating he had meant to refer to the set of her engagements, $\{e_1, e_2, e_3, \ldots e_n\}$. In other words, he used pictures referentially not to refer to pictures but engagements. A misunderstanding resulted from the referential use and the attributive interpretation.

There is some question as to whether the plural pictures should be regarded as a common noun or a term phrase. However, as noted above, it is not essential to regard C as a basic category. For those who do want to regard pictures as a term phrase, the same example can be given as evidence in the next section for Donnellan's distinction applying to names.

For the category name, let us use another real example. A linguistics student of mine called me on the telephone one day and asked, "Professor Godden?" I answered yes and he went on with a question. I could have told him that I am not Professor Godden but only Mr. Godden, a lowly assistant instructor. I did not tell him that because I knew that the question of my position was not essential to his query. He wanted by the name Professor Godden just to pick out the one person he had in mind who was his instructor, namely me. He was using the name referentially.

Now let us consider a hypothetical situation where the professorship of Mr. Godden is essential to the name Professor Godden. Suppose that one of Godden's students is a drug-crazed assassin and marks out for death only those who hold a professorship. Before class this student scrawls "I am going to kill Professor Godden" on the blackboard. In this situation, I contend (and hope) that the student is using the name Professor Godden attributively. If he subsequently finds out that Godden is Mr. and not Professor Godden, he would probably not attempt to carry out his threat and may even be inclined to scrawl an apology to Mr. Godden on the board.

Analogous examples could be given for any name preceded by a title. Some people may wish to interpret names of this sort not as names but as names accompanied by definite descriptions. I believe a good case can be made for taking these constructions as names, however. Professors are often called 'Professor' by their students and not necessarily 'Professor X.' There are also the titles/names 'Mr. President, Mr. Chairman, Coach,' and so on that can be used both attributively and referentially in the manner illustrated above. Since these names are used as forms of address, our crazed killer, this time of presidents,

would have to revise his note to read, "Mr. President, I am going to kill you," but the same results can be obtained.

I will now present examples of presupposed sentences that may be used attributively or referentially. The distinction can be clearly identified when these sentences, that are presupposed to be true, in fact turn out to be false.

Suppose Fred wants to talk to John about an important business deal. He thinks John is going to call him on the telephone, but that may be later in the day and Fred is tired and decides to take a nap. Fred says to his roommate Harry, "Wake me up when John calls." Fred is presupposing in the sentence that John will call. Now let us suppose that John does not call but comes knocking at the door instead. I think we can safely say that Fred would be angry if Harry does not wake him up to talk to John. Fred had used the sentence contained in the adverbial when John calls referentially. John's calling is not essential to the command that Fred wishes to express. Had Fred been clairvoyant and known that John would come to the door he would have said, "Wake me up when John comes to the door."

For successful communication, the original command needs to undergo an adjustment to reveal the intended proposition MAKE AVAILABLE(John,John) within the command. Of course the hearer would need to make the proper adjustment also in order to carry out the command, but if the speaker follows the conversational maxims and provides enough information then the hearer could do so. The important point is that the speaker is using the sentence referentially. John will call is used to pick out the proposition MAKE AVAILABLE(john,john). This proposition is entailed by CALL(john) and so the hearer should arrive at the intended proposition. He could also arrive at it by any other proposition that entails John's making himself available, such as the proposition expressed by John will come to the door or John will stick his head in through the window.

Consider another situation where Fred thinks that John will call but Fred wishes to take a nap. This time, however, Fred is doing an experiment concerning voice recognition over the telephone. He has a live tape recording of John's voice and now wishes to make a tape of John on the telephone. Fred says to Harry, "Wake me up when John calls." Fred is presupposing that John will call. If this presupposition fails and John does not call but comes to the door, Fred may get angry if Harry wakes him up. In this case, John will call is being used attributively and is essential to the communicative situation. The corresponding proposition is CALL(john).

When the presupposition John will call is used referentially, the command Wake me up when John calls can be obeyed successfully only in those possible worlds where John makes himself available. The failure of the presupposition is relatively unimportant just in case John makes himself available by other means. When the presupposition John will call is used attributively, the command can be obeyed successfully only in those possible worlds where John does indeed call. If the presupposition fails, the command cannot correctly be obeyed.

If we follow Stalnaker's proposal and separate the possible worlds from the context creating a new level, we can systematically account for Donnellan's distinction. Our new level consists of intensions that are functions from possible worlds to extensions. More examples of the distinction in sentences follow.

People presuppose the truth of sentences in the scope of since. Suppose Mary thinks her only sister Jane, who shares a bedroom with her, has died in an automobile accident. Mary says, "Since Jane is dead, I have the whole bedroom to myself." If it happens that Jane is not dead, but in a coma and confined to a hospital for the remainder of her life, Mary may still claim to have made the statement that she will have the bedroom to herself. The presupposed sentence Jane is dead is being used referentially by Mary to pick out the proposition - SHARE(jane,bedroom).

Now consider a situation in which Mary and Jane have three other sisters who share a second bedroom. It has been agreed that when Jane leaves home for college one of the other sisters will move in with Mary. However, in past discussions of this, all the sisters have remarked that they would not occupy Jane's place in the bedroom if Jane were to die because they are all afraid of ghosts. Given this situation, if Mary says, "Since Jane is dead, I have the whole bedroom to myself," she is using the presupposed sentence attributively. If the presupposition turns out to be false as above, Mary would wish to retract her statement because she knows one of the other sisters would move in with her.

With the attributive use, the sentence Jane is dead refers to the proposition DEAD(jane) whereas the referential use picks out quite a different proposition as shown above. Mary can claim to have the whole bedroom only in those possible worlds where Jane is dead when the sentence is used attributively. When it is used referentially, Mary can claim the bedroom in any possible world where it is not possible for Jane to use the bedroom.

Next, let us investigate the sentence What Socrates inhaled smelled terrible. A person who utters this presupposes that Socrates inhaled something. Suppose we are speaking of the odors of poisonous gases and John says this sentence. It is pointed out to John that Socrates did not inhale anything but drank hemlock. John may not now claim to have uttered a sentence with a truth value. This is the attributive use of the sentence Socrates inhaled something and the corresponding proposition is x(INHALE(socrates,x)).

However, the sentence may have a truth value if we are speaking of Socrates' immediate physical reaction to the substance that he was exposed to. If John says, "I read that Socrates did not like the substance that was given to him. What Socrates inhaled smelled terrible," we may say to John that his presupposition is false. Socrates drank poison but did not inhale fatal gas. John could accept this and still say that Socrates did not like the substance. The sentence Socrates inhaled something is used referentially by John to pick out the proposition x(BE EXPOSED TO(socrates,x)).

An interesting result of this referential use is that now the main verb of the sentence smell which is a derived category must also be used referentially. John cannot say that what Socrates was exposed to smelled

terrible without committing himself to the belief that Socrates inhaled something. Someone may unearth a document in the future that shows Socrates was exposed to such a loud noise that he went mad and died. John really wishes to say that Socrates judged terrible whatever he was exposed to but for the moment believes that this thing was gas. The intended proposition of the whole sentence is x(BE EXPOSED TO(socrates,x)) & x(BE EXPOSED TO(socrates,x)→JUDGE(socrates,TERRIBLE(x))).

Next let us take the factive predicate be surprised. Suppose Peter and Paul are talking about the powers of psychics and Peter says he read in the newspaper that Jean Dixon predicted that former President Ford would be in danger of a brain concussion from a bump on the head this month. Paul then exclaims how he heard on the news earlier in the day how former President Ford bumped his head. Peter then remarks, "I'm not surprised that Ford bumped his head." Later, they discover that Ford fell down while disembarking from an airplane but did not bump his head. Peter's statement of surprise would probably not have a truth value now since the presupposed sentence Ford bumped his head is false. Peter may or may not be surprised over the actual state of affairs but in any case his surprise or lack of it cannot be over Ford's bumping his head. This is the attributive use of the presupposed sentence.

Now consider a situation in which Peter is telling Paul how clumsy Ford is and it is a wonder he became president because of it. Paul then says how he read that Ford bumped his head. Peter says, "I'm not surprised that Ford bumped his head." This time, however, the presupposed sentence does not refer to the proposition BUMP(ford,ford's head) as in the previous example, but it refers to the proposition CLUMSY(ford). If Peter and Paul later find out that Ford fell down but did not bump his head, Peter could still claim to have predicated his lack of surprise over the proposition picked out by the sentence Ford bumped his head. The failure of the presupposition is unimportant in the latter case which corresponds to the referential use, but quite important in the earlier attributive case.

Can other factive verbs take sentential complements that may be used both referentially and attributively? Let us investigate the factive verb regret. Ralph may say, "John regrets that he made love to Mary," because Mary spread ugly rumors about John and hurt his feelings since John was quite fond of Mary. Now if it happens that the presupposition, John made love to Mary, is false and he merely kissed her, then John may still feel regret and Ralph may still have made a statement with a truth value. What Ralph intended by the presupposition was the proposition LIKE(john,mary). Both John made love to Mary and John kissed Mary conversationally imply under ordinary circumstances (made clear by the context) that John liked her and so the hearer could infer that this is the intended proposition of the referentially used presupposed sentence.

For the attributive use, we can imagine the same situation except this time Ralph thinks John feels regret because he caught gonorrhea from Mary. Now if Ralph finds that John did not make love to her, if John feels regret it is not because he made love to Mary. Therefore, we would probably not wish to assign Ralph's statement a truth value.

The presupposition that John made love to Mary is essential to Ralph's statement.

For one last example, let us look at the sentence If Seymour sliced the bagel deliberately, he helped me. A person who utters this sentence presupposes that Seymour did slice the bagel. If that person works in a bagel factory as a bagel slicer and on some occasion was unable to slice a bagel, then he could utter this sentence attributively. If Seymour did not slice the bagel, then no statement was made by the bagel slicer because the success of the presupposition is essential to the sentence. If is used attributively and refers to the proposition SLICE(seymour,bagel).

On the other hand, the speaker could be crippled and unable to prepare food for himself. He may have heard Seymour doing something in the kitchen and assumed in general that he was preparing food and specifically that he was slicing a bagel. In this situation the speaker could say, "If Seymour sliced the bagel deliberately, he helped me," and the presupposed sentence now referentially picks out the proposition x(PREPARE(seymour,x)&FOOD(x)). If Seymour in fact peeled a carrot instead of slicing a bagel, the whole sentence still has a truth value since peeling a carrot also entails preparing food.

I have presented evidence that shows a need to extend Donnellan's referential and attributive distinction of definite descriptions to all the basic categories of a grammar. This distinction can be systematically accounted for by creating a level of intensions between the levels of interpreted sentences and extensions. Intensions are functions from possible worlds to extensions.

The proposition referred to by an attributively used sentence can be easily determined from the interpreted sentence and the context. However, the propositions referred to by referentially used sentences may vary radically, depending on the context. We do not wish to allow a referentially used sentence to pick out any proposition, though. It was alluded to above that the class of propositions entailed by the value of an interpreted sentence at some context provides possible candidates for the actual reference of the sentence. For example, by using the sentence John will call referentially, we could conceivably be referring to any one of the following set of propositions: {CALL(john), MAKE AVAILABLE(john,john), RING(telephone), TRY(john,CALL(john)),...}.

This limitation by entailment is too restrictive, however. Take the example where the presupposition of I'm not surprised that Ford bumped his head is used referentially to pick out the proposition CLUMSY (ford). Although the context makes it clear that this is the proposition referred to, it is not entailed in the ordinary sense of entailment.

It appears that the limiting factor here is that of conversational implicature. Since p→ p, then by conversational implicature -p→- p which is equivalent to p→p. If we replace 'p' by CLUMSY(ford), we can set up the following argument:

1. BUMP(ford,ford's head)→ CLUMSY(ford) Definition of clumsy[4]

2. CLUMSY(ford)→CLUMSY(ford) By conversational implicature

3. BUMP(ford,ford's head)→CLUMSY(ford) Hypothetical syllogism

So we can see that the proposition actually referred to by a presupposed sentence must follow from what is conversationally implied by the value of that sentence at some context. Thus, in our example the context of the conversation will make it clear that the speaker wishes to assert his lack of surprise over Ford's clumsiness and not just over his bumping his head.

A similar relation exists for the values of other sentences and the propositions they refer to: the value of Socrates inhaled something implies x(BE EXPOSED TO(socrates,x)); the value of John will call implies MAKE AVAILABLE(john,john); the value of Jane is dead implies - SHARE(jane,bedroom); the value of Seymour sliced the bagel imples x(PREPARE(seymour,x)&FOOD(x)); and the value of John made love to Mary implies LIKE(john,mary).

These relations depend on the belief worlds of speakers and hearers. When these belief worlds do not coincide, misunderstanding may result. For example, the speaker but not the hearer may believe that Ford's bumping his head implies that Ford is clumsy. In addition, many things may be implied by the value of each sentence. The correct proposition can be picked out by the hearer only through information provided in the context of the utterance; information such as the topic of discourse being Ford's clumsiness so the hearer knows that the speaker means CLUMSY(ford) by Ford bumped his head. The context then signals to the hearer when the speaker is using a construction referentially or attributively, and if referentially the context allows the hearer to know what proposition is referred to by the speaker's sentence.

Since a proposition entails itself and therefore implies itself, we can see that the reference of an attributively used sentence is a subset of the set of all possible referential values. For example, the value of Ford bumped his head implies CLUMSY(ford), HURT(ford's head), and it implies itself, BUMP(ford,ford's head), and it implies other things as well. When the sentence is used referentially, the proposition referred to is one of these propositions. When used attributively, the reference is the last proposition listed here. Thus, the attributive use appears to be a special case of the referential use.

There is a basic difference between the attributive/referential distinction as applied to definite descriptions and as applied to sentences. In the former case, a referential use picks out a specific individual. In the latter case, the referential use picks out one of a set of implied propositions. However, in both cases the primary characteristic is that failure of the presupposition is not essential to the truth value of the whole sentence. For the attributive use, the definite description must be accurate and the sentence must be true. In other words, the truth of the whole sentence depends upon the truth of the attributively used presupposition.

FOOTNOTES

1 This is a revised version of a paper delivered under a different title at the Kansas conference on presupposition, April 15, 1977, at the University of Kansas. I would like to thank Jay David Atlas for his friendly suggestions, and special thanks go to Choon-Kyu Oh without whose encouragement, help, and inspiration this paper would never have been written.

2 Stalnaker 1972, p.388

3 Ibid., p.392.

4 I believe that clumsy refers to a non-empty set of disjoint propositions $\{p_1\ p_2\ p_3\ \ldots\ p_m\}$ such that one proposition or any combination of them is true an indeterminate number of times $\underline{n}$ within some indeterminate range of time points $\underline{t}$ where $\{p_1 \ldots p_m\}$, $\underline{n}$, and $\underline{t}$ depend upon the context. In the example I have chosen, one such proposition is BUMP(x, x's head).

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